U.S. 60 Corridor Definition Study
Pinal County Corridors Definition Study
Williams Gateway Corridor Definition Study

Executive Summary

prepared for

State Transportation Board

prepared by

Arizona Department of Transportation

Transportation Planning Division

State and Regional Planning

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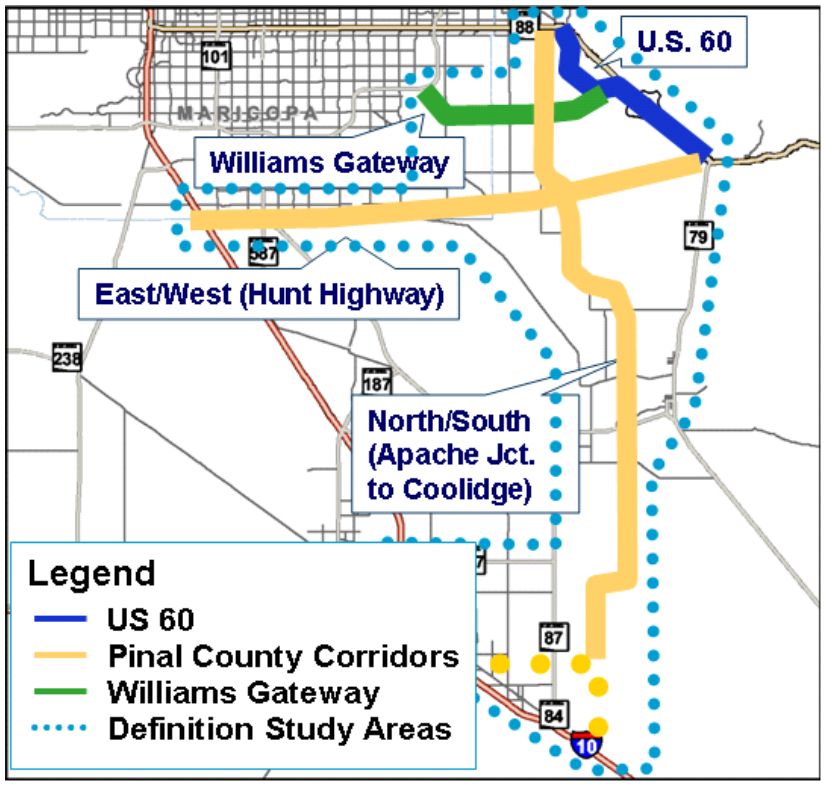
INTRODUCTION

This document summarizes the findings and recommendations of three Corridor Definition Studies conducted by the Arizona Department of Transportation (ADOT) over the past 12 months. The studies address four corridors originally identified by the *Southeast Maricopa / Northern Pinal County Area Transportation Study* (SEMNPTS).

- The *US 60 Corridor Definition Study* addresses a potential reroute of US 60 in the vicinity of Gold Canyon.
- The *Pinal County Corridors Definition Study* addresses potential new East-West (roughly in the area of Hunt Highway) and North-South (between Apache Junction and Eloy) corridors within Pinal County.
- The *Williams Gateway Corridor Definition Study* addresses a potential new corridor connecting Loop 202 in Maricopa County eastward to US 60 just south of Gold Canyon.

Starting in October 2004, the three studies have examined the potential need for and feasibility of these four corridors. Figure 1 presents the original SEMNPTS corridors as well as the overall study area considered by the three studies together.

Figure 1. Corridor Definition Study Areas



Study Purpose

The Corridor Definition Studies were originated to comply with legislative requirements. As identified by Arizona State Laws, 2004, Chapter 2, Section 26, the corridor definition studies were mandated to:

- "Further define corridors identified in Southeast Maricopa/Northern Pinal Transportation Study [SEMNPTS] for right-of-way preservation"
- Provide the State Transportation Board with information needed to "consider the identified corridors as state highways in the state highway system"

ADOT staff identified several key questions to be addressed by these studies, including:

- Are new corridors needed?
- Are they feasible for construction?
- If needed and feasible, what is the general location and type of new facilities?
- If needed and feasible, should they be state facilities?

Importantly, the Corridor Definition Studies are planning studies. As such, they are not intended to determine the exact alignment or design for any road. Additional studies would be required to determine the precise location of the corridors and to design a future facility.

Study Process

Each of the Corridor Definition Studies included several elements as part of the study process:

- **Coordination and cooperation.** Extensive coordination among the three studies as well those outside of ADOT.
- **Existing and future conditions.** The collection of data and establishment of future forecasts that guided the analysis for all three studies.
- **Needs analysis**. The determination of the need for the four corridors.
- **Feasibility analysis**. Given the above step, the examination of the feasibility of the needed corridors.
- **Development of recommendations**. Based on the technical analysis and public and stakeholder comments, the recommendations identified by the three studies.

The following sections of this report outline each of these key areas.

COORDINATION AND COOPERATION

The three studies were conducted with extensive coordination. This involved the joint development of a planning model for analysis of the corridors, coordination on the public involvement process, and the development of a single unified set of recommendations based on the work conducted for all three studies.

Each of the studies has a Technical Advisory Committee (TAC) that consists of representatives of the jurisdictions (cities, towns, counties, tribal government) within the study area, as well as other relevant agencies (Arizona State Land Department, Valley Metro, and others). TAC members were asked to provide information to support the analysis, to provide comments on the material produced by the studies, and to communicate the results of the studies to their staff and elected officials in their jurisdictions. The TACs have been engaged throughout the study process at key milestones.

In addition to the TACs, the studies maintained a substantial public involvement effort that included significant participation by citizens, stakeholders, and elected officials. The elements of this process included:

- **Stakeholder meetings with staff members of jurisdictions and other key entities** (Arizona State Land Department, East Valley Partnership, others). These meetings helped the study teams to understand the issues and concerns of ADOT's major partners within the study area.
- **A round of public open houses to review existing and expected future conditions in the study areas.** A total of six open houses were conducted in the spring of 2005. These meetings provided the public with information about the study process and area conditions, and elicited comments regarding the major issues addressed by the three studies.
- **A second round of public open houses to present the needs and feasibility analyses.** A total of four open houses were conducted in August 2005. These meetings provided information regarding the technical analysis of the corridors, and elicited responses regarding facilities identified by the studies as needed in the future.

Public involvement is a vital part of the study process. Through these meetings, the public and stakeholders have helped determine the issues that were considered by the studies.

EXISTING AND FUTURE CONDITIONS

The first step in the technical analysis was an inventory of existing conditions and a forecast of 2030 conditions. The existing conditions effort was based on an examination of available data, including traffic counts, population esti-

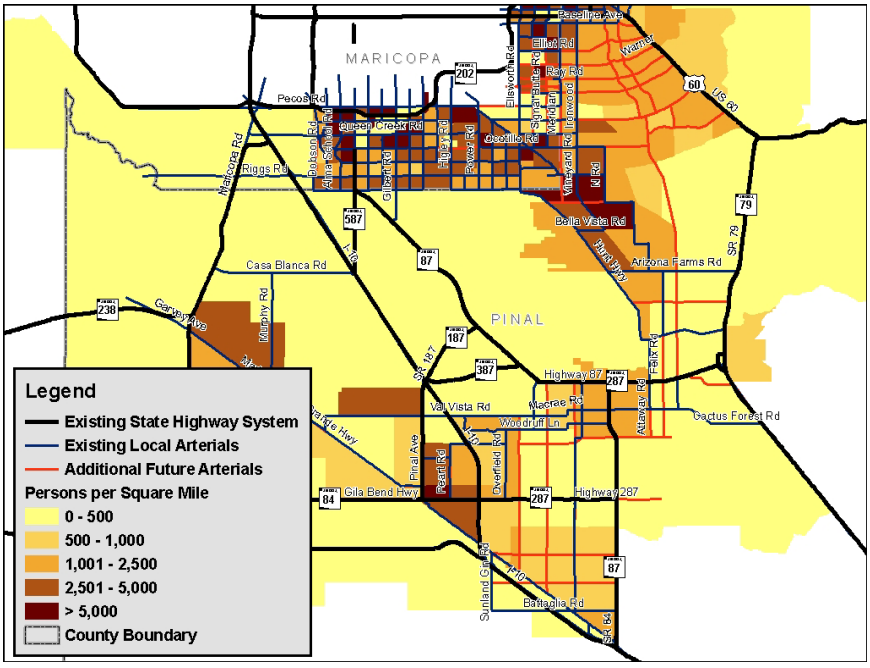
mates, geometric and physical attributes of the road network in the study area, and other related information.

The forecast of future conditions was based on the above items and additional material, including:

- General plans and transportation specific plans to help identify the future local street network in the cities, towns, and counties within the study area.
- Socioeconomic forecasts based on several sources, including existing travel demand models in use in the study area, studies of expected population growth, and others.
- A planning model developed to forecast future travel demand on the entire roadway system (state highways and local arterials). The planning model covered the three study areas and all analyses were conducted jointly by the three study teams.

The results of the existing and future conditions work resulted in a "base future" scenario that represented likely future population and economic growth, and the likely future local transportation network in the study area. This material was presented to the public and stakeholders during the first round of public involvement in the spring of 2005. Figure 2 presents the base and future (2030) transportation system for the study area and the expected future population density. The socioeconomic analysis projects that over 1 million residents will live in the Pinal County portion of the study area by 2030.

Figure 2. Base and Future Conditions



NEEDS ANALYSIS

The purpose of the needs analysis was to identify the need, if any, for new transportation corridors within the study area by 2030. The needs analysis was developed using the planning model described above. Each of the scenarios evaluated as part of the needs analysis was compared to the base future scenario identified above.

An iterative process was used to assess corridor needs in the joint study area. Initial analyses (model runs) were conducted to identify the demand for new facilities and the impact of these facilities on the existing transportation system. Based on the results of each model run, additional runs were conducted to refine the needs analysis and to address outstanding questions from previous model runs. A total of 20 individual model runs were conducted as part of this process.

The model results were evaluated based on three criteria:

1. **Demand**. Is there enough demand on a corridor to warrant future development of a transportation facility? Do the proposed corridors carry enough vehicles to be useful transportation facilities?
2. **Level of Service**. How do the proposed corridors impact the ability of the overall roadway system to handle future demand? Is there enough capacity in the base future arterial system to handle projected demand or are new corridors needed to ensure that the future arterial system can function properly?
3. **Performance**. How do the various proposed corridors impact the overall performance of the transportation system, including mobility, accessibility, resource conservation, and related issues?

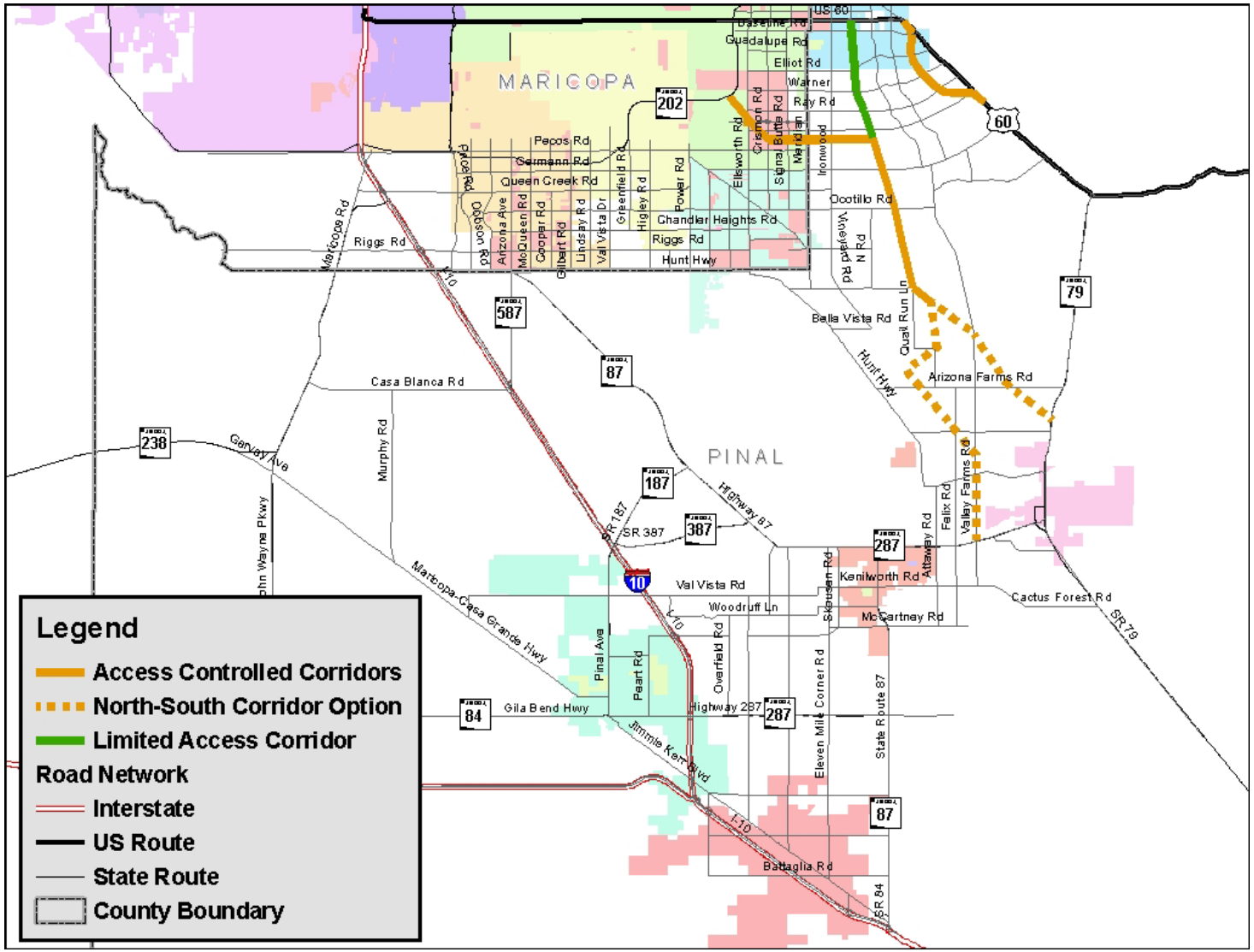
Needs Analysis Findings

There were several findings from the needs analysis. Based on the demand for future facilities and the impact on the transportation system, *access-controlled* facilities will be needed in the following general corridors by 2030:

- A reroute of US 60 in the Gold Canyon area; and
- A corridor connecting Loop 202 and either SR 79 or SR 287. This corridor would include portions of the Williams Gateway and North-South Corridors.

In addition, the studies identified the need for a *limited access* facility running north-south that connects US 60 and the Williams Gateway corridor. This corridor is the northern-most segment of the north-south corridor. The future demand for this corridor is not expected to be significant enough to warrant a full access-controlled facility. A lower level facility should be able to handle the demand in this corridor. Figure 3 presents these two key findings of the needs analysis.

Figure 3. 2030 Corridor Needs Identified



In addition to these specific needs, the studies identified several general findings. First, when and where warranted, the existing state highway system in relevant areas of Pinal County should be targeted for potential widening and access management. This will help ensure successful functioning of the future regional transportation network (both existing and future facilities).

Second, given the uncertainty surrounding the extent, type, and timing of future development of State Trust lands, the future need for some of these corridors may be different than what was identified through the needs analysis. In addition to the corridors identified above, build-out corridors (beyond 2030) have been identified at a general planning level throughout study area. Figure 4 presents a complete set of access-managed corridors that may be needed to address future build-out conditions in the study area.

Finally, the growth of Pinal County depends on the development of a mature arterial network in the study area. This network will be essential not only for mobility within communities, but for providing access to any existing or proposed highways. Unless local residents and businesses are provided with access routes, highways in the area will be underutilized and of limited value.

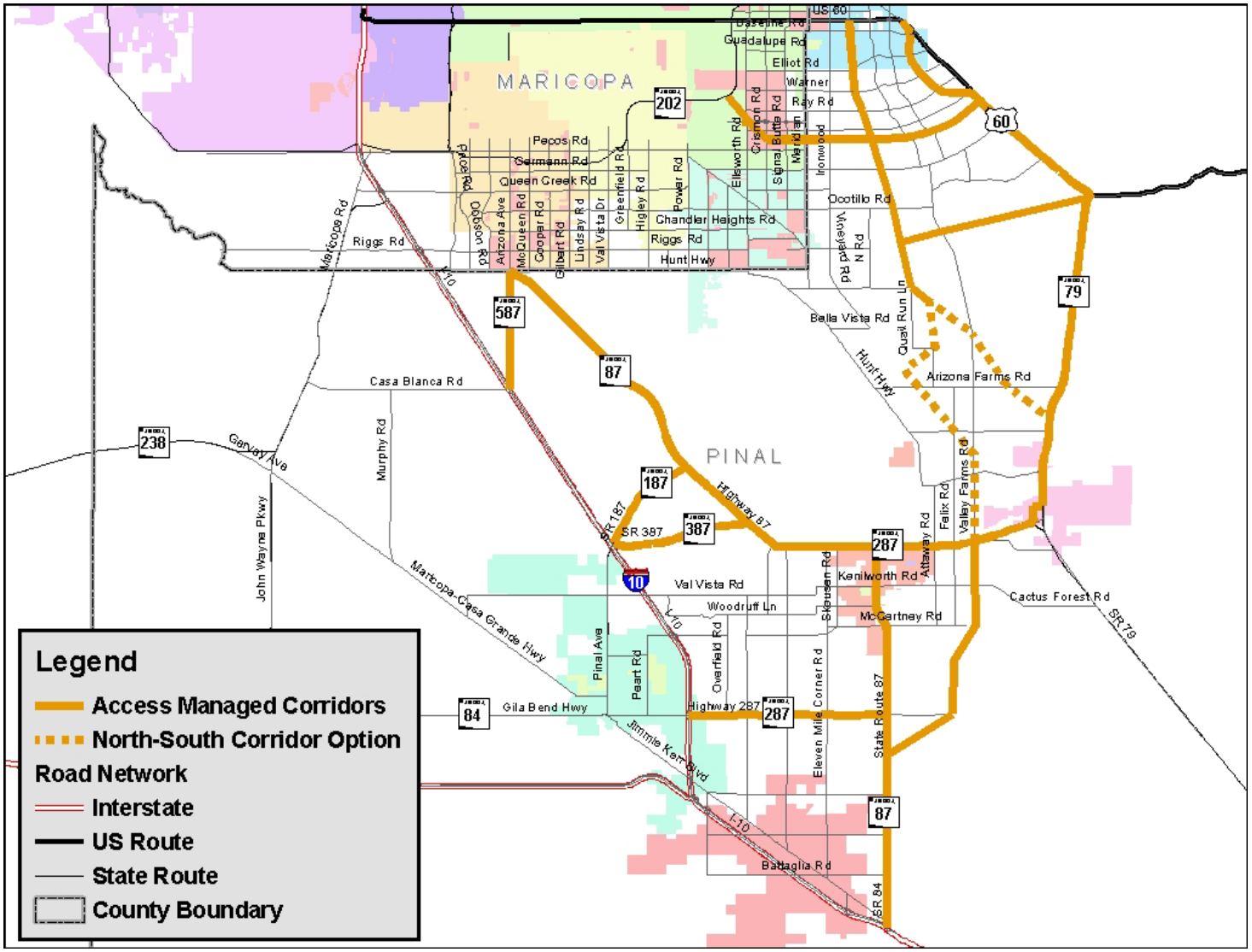
FEASIBILITY ANALYSIS

The purpose of the feasibility analysis is to identify the advantages and disadvantages of general corridor locations, and to determine if any fatal flaws exist for the corridors identified through the needs analysis. This process led to the definition of the corridors to the extent possible, recognizing that more detailed engineering and environmental analyses would be required before a precise alignment could be identified.

The questions addressed by the feasibility analysis include:

- **Engineering considerations**. Could a corridor be constructed given physical constraints?
- **Environmental compliance**. Are there major outstanding environmental issues that would impact the location of a corridor? Would sensitive natural, cultural, or historical areas be impacted by a proposed corridor?
- **Socioeconomic and land use considerations**. How would a proposed corridor impact the location of future developments in the study area? Conversely, how might land use decisions affect a potential corridor?
- **Community concerns**. Would a proposed corridor conflict with or support existing community plans in the study area?
- **Cost and right-of-way**. What would potential corridors cost to construct, including purchase of right-of-way and the construction of the roadway and associated structures?

Figure 4 Future Potential Needs for Access Managed Corridors



Feasibility Analysis Findings

In general, the studies specified no fatal flaws that would prohibit the construction of the corridors identified as needed by 2030. However, if any of the corridors are considered for future construction, additional environmental and engineering studies would be needed to determine their precise location.

The cost to construct the corridors identified as needed by 2030 is substantial. The reroute of US 60 around Gold Canyon would likely cost at least $300 million for right-of-way and construction and an additional $2 million for engineering and environmental studies. The corridor connecting Loop 202 to either SR 287 or SR 79 would cost at least $1 billion. In addition, the cost to upgrade existing state routes to four-lane access-managed facilities, where needed by 2030, would cost upwards of $600 million. To date, no funds have been programmed for the construction of any of the above corridors.

North-South Corridor Options

The preceding figures and text describe two potential options for the southern connection of the North-South corridor – to SR 287 or to SR 79. Each of these corridors has advantages and disadvantages.

The major considerations for a connection to SR 287 include:

- It maintains continuity with the utility corridor recently adopted by the Salt River Project;
- It would be located adjacent to and potentially in conflict with master planned communities; and
- It provides an additional crossing of the Gila River.

The major considerations for a connection to SR 79 include:

- It avoids conflicts with master planned communities in Pinal County; and
- It takes advantage of opportunities along Magma Dam.

DEVELOPMENT OF RECOMMENDATIONS

Based on the needs analysis, feasibility analysis, and public involvement process, a single set of recommendations was developed for the three studies.

In compliance with legislative requirements, action by the State Transportation Board is requested on the following recommendations:

1. The SEMNPTS corridors have been further defined:
    a. **US 60 reroute**. A need is anticipated for this facility by 2030. Preliminary engineering and alignment studies have been programmed for FY 2006 and should proceed.

b. **Corridor connecting Loop 202 and either SR 79 or SR 287**. A need is anticipated for this facility by 2030. Additional study is warranted to further define this corridor.

c. **Limited-access corridor north-south between US 60 and Williams Gateway corridor**. A need is anticipated for this facility by 2030. Limited-access facilities in urbanized areas typically fall under the jurisdiction of city, towns, and counties. Further study is warranted to determine the appropriate development and location of such a facility.

d. **Build-out corridors**. Given long-term development trends in the northern portion of Pinal County, additional facilities may be needed beyond 2030. These corridors have been identified at a general planning level by the three studies and warrant further study to determine if and when they may be needed to support population and economic growth in the study area. Future studies will define these corridors with greater precision.

2. Amend the MoveAZ Long-Range Transportation Plan to incorporate the above recommendations developed by the Corridor Definition Studies. **No new corridors are recommended as state routes or state highways at this time.**

ADOT is and will be conducting additional studies to address many of these unresolved issues, including a statewide Access Management Study, a Regional Transportation Profile for the Pinal County area, and other studies as warranted.

Key Considerations

The study area for the three Corridor Definition Studies includes substantial areas currently experiencing rapid growth and an even larger area of State Trust land that is expected to develop within the near future. The pace and volume of that development has yet to be determined precisely. As these areas continue to evolve, it will be vital to continue planning efforts to ensure that the future transportation system meets the growing and changing needs of the study area.

To make this possible, continued coordination and cooperation among the study partners will be needed. City, county, regional and state agencies, as well as private developers, have a key role to play in this process, which includes:

- The development of a master plan for State Trust land in the study area by the Arizona State Land Department will help define future studies in the area.
- Planning for and development of a mature city/town/county arterial system is essential for a future transportation network to function. ADOT supports this by funding Small Area Transportation Studies (SATS) for cities, towns, and counties throughout the state. These studies develop a long-range plan of improvements to local/county roads. SATS are presently underway for

Pinal County and for several communities within the county. Local jurisdictions must play a significant role in this process.

- Portions of the existing state highway system in Pinal County may require widening and/or access management to help ensure that they can continue to function as state facilities into the future. ADOT's ongoing Access Management Study will help identify locations of concern across the state and provide solutions to help improve the functioning of the state highway system. The Regional Transportation Profile, to be started within the next 12 months, will identify needs and recommend potential long-range improvements to the state highway system in Pinal County. This study will benefit from work being conducted by the State Land Department and the many SATS underway in Pinal County.
- Continued long-range planning helps ADOT and the State Transportation Board understand the transportation issues facing the state and the potential cost-effective solutions for these problems. Regular updates to the state long-range transportation plan (MoveAZ) will incorporate inputs from the Corridor Definition Studies, Regional Transportation Profiles, and other studies.